



Notes from Sub-Group Meeting on Biomonitoring
October 25, 1999

Outline for Meeting

1. Rationale for selected arsenic biomonitoring : Blood – Urine – Hair
 2. Selection of Target Population
 - Based on Phase III Results
 - Number of Participants
 - All residents of identified properties vs. children only
 - Other suggestions
 3. Timeline
 - Collection of Biological Samples (Winter vs. Spring)
 4. Roles of Community and Health Agencies
 - Recruitment
 - Blood lead testing
 5. Other Issues
 - EPA Exposure Parameters
1.
 - A) Blood-lead testing? Still researching. Unclear
 - B) Urine arsenic comments (draft received 5/99)
 - Testing for inorganic arsenic eliminates dietary influences
 - In-home sampling vs. clinical sampling – potential exists for contamination
 - Results of a 1989 urine-cadmium testing (CDR) had elevated results due to contamination in the home – What was the method used to inform those being tested of the process?
 - Highest urinary arsenic levels should be in children because of more direct contact

General questions:

What types of fears does the testing raise in the community?

Will people be willing and able to come to the clinic for testing?

Will the addition of samples with dust added be included in the testing to screen out smoking, contamination, etc?

Suggestions for urine arsenic testing:

Pre-information on not eating seafoods and organ meats; both contain significant amounts of lead

Anthony and Mike suggest that the best method for testing is via mobile unit on a Saturday or Sunday with good pre-information and advanced notice

Hair Testing

- Hair testing important because dealing with sporadic, random exposure – urine might not indicate prolonged exposure
- Testing should also be seasonal because people are typically not in direct contact with the soil in the winter
- Anthony suggested counter checks or re-testing by another lab to confirm results
- Consistency between samples are greater for biological samples over environmental samples
- Mike concerned about public confidence in the thoroughness of studies being done
- Back to hair: hair testing adds a time window for discovering higher arsenic levels that is otherwise inaccessible through urine
- At this point, David clarifies the purpose of the study: Identify groups that might be highly exposed to arsenic and lead in order to direct early and aggressive environmental intervention

- In order to legitimate the results of hair and urine testing, you would have to do an environmental assessment in conjunction with sampling.
 - Questions:
 - Would a person's diet assist in expelling arsenic?
 - Would hair products pull arsenic from hair (internally and externally)?
 - Should screening be done for arsenical skin signs? (someone properly trained in detection would recognize the signs)
 - Children more likely to ingest more – hands in mouth more often
 - Food products should be addressed in pre-information
2. Selection of Target Population
- Based on Phase III: Homes that are most exposed
 - Should we just limit population to children? – Other exposed population = gardeners
 - Another target area should be trailer park – have no lawns and a high concentration of people (children)
 - Question for Lorraine – Who owns the trailer park?
 - Should identify play areas where children might be contaminated
 - Bonnie: In Phase 1 and 2, most play areas came up clean
 - Doing approximately 100 samples – Should 50 be pre-school children?
 - Reason why ATSDR is able to do this sort of testing is b/c it is smaller
 - Can CU Environmental Medicine assist with the testing?
 - Can the state be involved in testing?
 - What else might be tested for? (cadmium? Manganese?)
 - Is there a previous study of cadmium?
 - Tentative target: 53 children, 10 gardeners, 10 children in bare soil yards, 10 children that might be playing in neighbors contaminated soil, 20 adults
 - Is David also willing to test on removal properties?
3. Timeline
- Phase III results should be available in Dec/Jan – each homeowner gets results in a letter
 - Biomonitoring should take place in the spring (Late April/May) – depends on weather (ATSDR will wait for weather break)
 - Could coordinate with EPA's removal schedules
 - What are other testing alternatives for removal sites that ATSDR doesn't use in study
4. Roles of Community and Health Agencies
- With recruitment issues, there is a concern for confidentiality
 - Environmental data is public record – address and results should be available
 - Asking community reps (Anthony, Cross, etc.) to indicate bare soil properties, children and gardener properties
 - To give community reps a list of 50 to 60 homes
 - EPA might be able to include a short survey, while doing testing, on 3 children/home, type of soil, where kids play, etc.

Aside: Terry Taylor – got EPA grant to do blood testing for NE Denver (takes in all of Vazquez site) – provides seed members to community (2 year grant, will start sampling in Spring of 2000)

5. EPA Exposure Parameters

- Will be in mail – to discuss at next meeting

**Notes taken by Laurel Mattrey, COPEEN Staff